

Attendify – Smart Attendance Management System

Attendify is a modern, scalable solution designed to automate attendance tracking with GPS verification, Arduino hardware and f.

Mentor:- Mr.Amrendra Singh

By:-

Akshita Saxena, Aparna Gautam, Shikhar Varshney, Ankit



Problems with Manual Attendance

How traditional methods hinder accuracy, efficiency, and insights



Prone to **errors**: human mistakes and poor record accuracy



Lacks **real-time analytics** and actionable attendance data lacks **real-time analytics** and actionable attendance data



Vulnerable to **proxy attendance** and verification gaps



Not **scalable** for large classrooms or institutions.



Scales poorly: high **administrative overhead** for large records

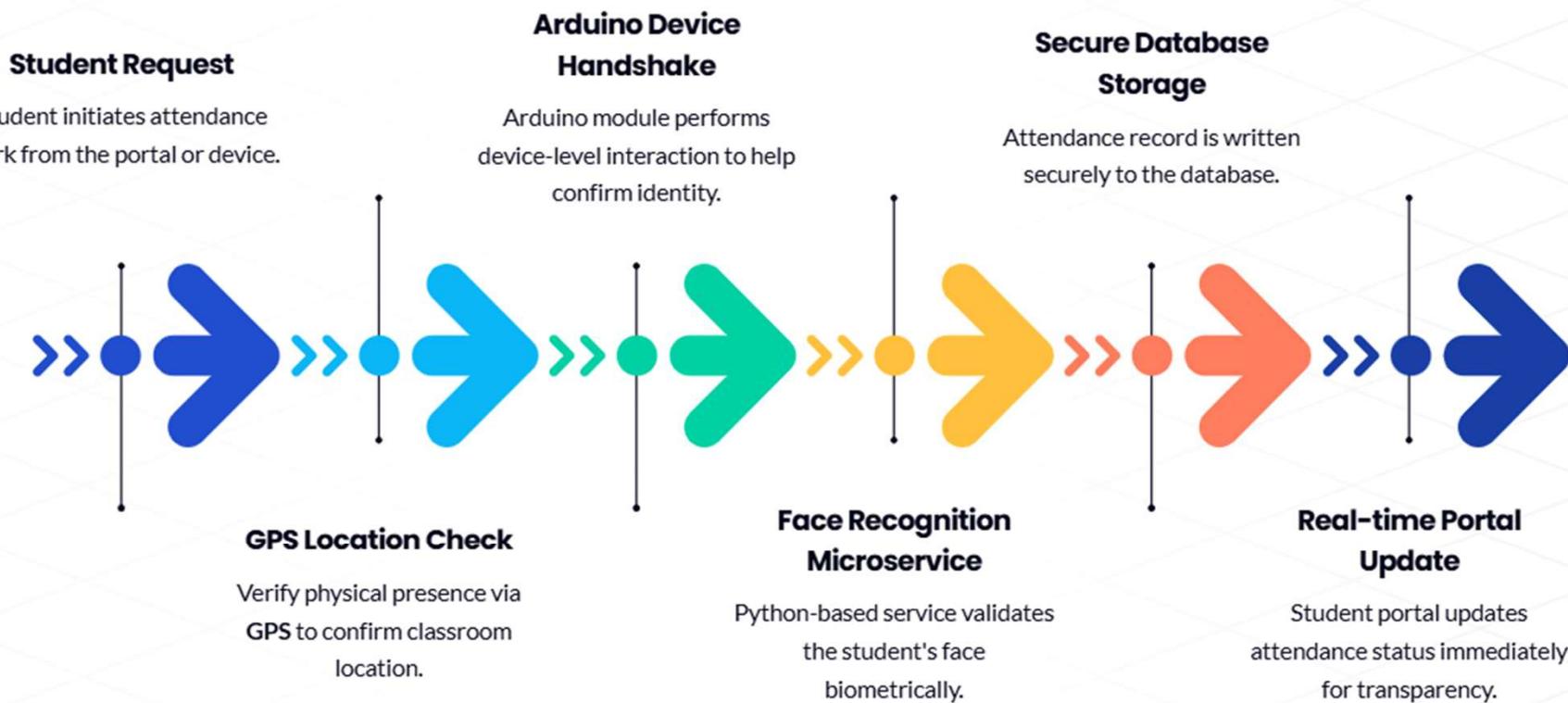


Outcome: **impaired class management** and reduced student **tracking accuracy**



Attendance System: Verification & Recording Flow

A concise 6-step process ensuring physical presence, device identity, biometric validation, secure storage and real-time status



Student Portal: Key Features

Secure, real-time access to schedules and attendance



- 1 Login with a secure link-based flow to preserve data integrity**
- 2 Schedule display: view upcoming lectures and times at a glance**
- 3 Request attendance marking directly from the portal**
- 4 Real-time attendance status updates to track records instantly**
- 5 Reduces administrative queries and confusion; empowers students**
- 6 Shows student's details after logging on the portal**



Teacher Dashboard – Real-Time Attendance

Live visibility into lecture attendance for faster classroom management

- ◆ **Real-time updates** for each scheduled lecture — monitor attendance instantly
- ◆ **Instant absentee identification** to enable quick intervention
- ◆ **Anomaly detection** in attendance patterns for early flags
- ◆ Reduces paperwork and increases transparency in class records
- ◆ Improves class management with immediate, actionable insights



Key Technologies Powering Attendify

Hardware and software components enabling identity, backend, and responsive UI



Arduino – hardware modules for identity verification



Python + OpenCV – face recognition microservice



Node.js + Express – backend API services



MongoDB – efficient database management



HTML, CSS, React – responsive, intuitive frontend



Combined stack ensures scalability, performance, and maintainability

Improvements & Advanced Features

Planned security, analytics, and mobile enhancements to strengthen attendance integrity and insights

Face spoof detection to prevent fraudulent biometric attempts



QR code & multi-factor authentication for stronger access control



Mobile app to extend teacher access and on-the-go management



ML-based attendance prediction for trend analysis and forecasting



Advanced analytics dashboard providing deeper attendance insights



Push notifications to boost engagement and real-time alerts





Transforming Attendance Management

Fast, secure, scalable attendance via location, biometrics, and real-time analytics

- ① Addresses manual attendance with **fast, accurate, and scalable** automation
- ② Combines **location verification** and **biometric authentication** for secure checks
- ③ Provides **real-time data analytics** to streamline class management
- ④ Modular architecture enables **flexibility** and future enhancements
- ⑤ Positioned as a robust solution adaptable to varied educational contexts

Thank you!

Reach out for questions, collaboration, or feedback on attendance innovation.